Bulletin of the Agricultural Chemical Society of Japan.

Vol. 12.

(Nos. 136-147)

1 9 3 6

The Agricultural Chemical Society of Japan.

c/o Faculty of Agriculture, Tokyo Imperial University.

Bulletin of the Agricultural Chemical Society of Japan.

Vol. 12.

(Nos. 136-147)

1936

No 12

Contents

I. Transactions.

PAGE

Waro NAKAHARA, Fumito INUKAI and Saburo UGAMI: Studies on Dietary Requirements for Lactation. IV.—On the Nature of Factor L, a Specific Dietary Factor for Lactation. 1

Yasuo IWASAKI and Tatsuya SUGIMOTO: On a Substance causing Turbidity in the Syrup of Canned Mandarin Oranges (Citrus Unshiu Marc.). 8

Hidejiro NISHIKAWA: Biochemistry of Filamentous Fungi. IV.—Mycelial Constituents of Oospora sulphurea-ochracea. Part I. 47

Kinichiro SAKAGUCHI and Yinchang WANG: Studies on the Assimilation of Nitrites by Fungi. A supplement to part I. 59

Kinichiro SAKAGUCHI and Yinchang WANG: Studies on the Assimilation of Nitrites by Fungi, Part II. 63

Kazuo YAMAFUJI and Shio GOTO: Über die Blutamylase und Körperkraft bei einiger Rassen des Seidenraupen. 75

Iwao IWAMURA: Biochemical Studies on "Miso" Fermented Soy-been Paste. Part IV.—On the Effect of Cystine upon the Nutritive Value of "Miso-protein" when fed to Albino Rats as a Supplement to Rice. 78

Iwao IWAMURA: Determination of Cystine in "Shoyu". 89

Kazuo YAMAFUJI und Shio GOTO: Beziehungen zwischen Organismenstrahlung, Katalasewirkung und Atmungsintensität bei der Entwicklung von Bombyx mori L. 90

Yasuyoshi OSHIMA: Chemical Studies on the Tannin Substance of Formosan Tea-leaves. 103

II. Abstracts from Transactions published in Japanese.

Page

The effect of yeast upon malnutrition of rats caused by high-sucrose ration (Preliminary report). (H. ARIYAMA). 10

Studies on "Kaoliang" as the source of starch-making, milling, and "Ame"-manufacture. I.—The distribution of constituents in "Kaoliang"-grains. (R. YAMAMOTO). 11

Studies on "Kaoliang" as the sourse of starch-making, milling, and "Ame"-manufacture. II—The alcohol soluble proteins of glutenous and common Kaoliang. (M. NINOMIYA and R. YAMAMOTO). 11

Studies on germ and outer seed coat (bran) of Kaoliang grains. (IV).—A wax and hydrocarbon in bran. (R. YAMAMOTO and M. NINOMIYA). 11

Studies on the germ and seed coat of Kaoliang. (V).—The phosphatides of the Kaoliang germ. (R. YAMAMOTO and M. NINOMIYA). 11

Untersuchungen von Essigbakterien aus Formosa (VII). (S. TANAKA). 12

On the soil formation in North KYUSHU. (R. KAWASHIMA). 12

The changes of oxidation-reduction potential of waterlogged soils. (K. SIBUYA, H. SAEKI and K. RYU). 13

On the phytase and the glycerophosphatase of Rhizopus. (K. MIYAGAWA). 14

On the nutritive value of biscuit. (R. SASAKI and N. ANDO). 14

On the enzymes in the yellow tobacco. (I). (T. NITO and E. KITAMURA). 14

On the optical properties of the fermentation lactic acids. Part II.—The manner of lactic acid bacteria towards inactive and active lactic acids added to the fermentation liquids. (H. KATAGIRI and K. KITAHARA). 15

Chemical studies of silk-fibroin (I).—On fibroin A and fibroin B. (H. KANEKO and C. KOMATSU). 17

Studies on the chemical constituents of tobacco. IV.—On the enzymes in the yellow tobacco (II). (T. NITO and E. KITAMURA). 17

Influence of deficiency of three essential elements (N, P, K) on the yield, Ash-constituents (Si, Ca, P, K) and nitrogen content of unhulled rice (continued). (C. ICHIKAWA). ... 17

Über die Amyloverfahren (III). (H. MUTA und K. TANAKA). 17

On the process of soil formation in Kyushu. (R. KAWASHIMA). 18

The influence monochromatic lights on the action of proteolytic enzymes in the yeasts. (R. MURAKAMI). 19

The influence of monochromatic lights on the oxidation and reduction of yeasts. (R. MURAKAMI). 20

The influence of monochromatic lights on the action of the amylase in the yeasts. (Part I). (R. MURAKAMI). 21

The influence of monochromatic light on the action of the amylase in the yeasts. (Part II). (R. MURAKAMI). 21

Sterilizing action of acids. (6) Report.—Sterilizing action of halogenated fatty acids on putrifactive bacteria, Bac. typhosus and Vib. cholerae. (S. TETSUMOTO). 22

Studies on the amylase of yeast. VI.—On the enzym-chemical properties (3). Thermostability of yeast amylase. (K. ONO). 27

Die Isolierung von Gärkraftige Hefen (3). (Y. TAKEDA). 27

Über die Oberflächenaktivität und die Adsorbierbarkeit von Aminosäuren. V und VI Mitteilung. (T. ITO). 27

On the estimation of certain elements with the spectrograph by arc process. (K. KONISHI and T. TSUGE). 36

On some antiseptics for sake. (B. KATO & I. MATSUDA). 37

Nutritive value of canavanin (amino acid). (M. OGAWA). 37

Influence of (N, P, K, Ca) simply on the yields, ash-constituents (SiO_2, CaO, P_2O_5), nitrogen and carbohydrate content of unhulled rice. (C. ICHIKAWA). 38

On the change of hesperidin content of the peel of mandarin orange during its ripening, together with the content of hesperidin in the juice, imbedded fibre (with fibre on the segments) and the endocarp of the ripened fruit. (Y. IWASAKI). 38

On the optical properties of the fermentation lactic acids. Part III.—The action of the inactive lactic acid-producing organisms upon the optically active lactic acid added

to the fermentation liquids. (H. KATAGIRI and K. KITAHARA). 39
Untersuchungen von Essigbakterien aus Formosa. (VII). (S. TANAKA). 39
Über ein neues kristallinische Diterpen "Sciadopiten" aus dem Blatt- und Zweigöl von Sciadopitys Verticillata S. et Z. (II. Mitteil)—Über die Derivate des Sciadopiten und die Reduktion der zwei Isomeren. (K. NISHIDA und H. UOTA). 40
Sulphates and chlorides as fertilizers. (VII). —Influence of both salts on the physical constitution of paddy soil annually fertilized with the same manures for five successive years. (I. ONODERA and H. HASEGAWA). 42
Studies on the amylase of yeast. VII.—On the enzym-chemical properties. (4). Effects of hydrogen-ion concentration on the durability and stability of yeast-amylase during its storage. (K. OHNO). 42
On the inorganic constituents of green-manure crops. (I). (K. KONISHI and T. TSUGE). 43
On the regeneration of fibroin (II).—Dispersion of fibroin. (T. TANIZAKI). 43
Studies on the constituents of the mulberry leaves, especially on the protein. Part XI. —A comparative study on the distribution of amino-acids of mulberry leaf proteins (Y. KISHI). 43
Studies on the constitutions of the mulberry leaves, especially on the proteins. Part XII. —A study of the solubility of the mulberry leaf proteins and its application. (Y. KISHI). 44
On the regeneration of fibroin. (III).—Fibroin sol. (T. TANIZAKI). 51
Direct pH determination of soil under its natural state by quinhydrone method. II. —Description of a new electrode and its use. (A. ITANO and Y. TSUJI). 51
Two new yeasts.—Saccharomyces robustus nov. sp., and Saccharomyces praecisus nov. sp. (R. NAKAZAWA and M. SHIMO). 52
Studies on the microorganisms in the manufacture of "Miso".—Part I. (M. MOGI). 52
Studies on the microorgamisms in the manufacture of "Miso".—Part II. (M. MOGI). 54
Studies on the amylase of yeast. VIII.—On the enzyme-chemical properties. (5). The effects of some inorganic and organic substances on saccharifying power of the yeast amylase. (K. OHNO). 55
Studies on the constituents of "Natto", the fermented soybeans. Part I.—On the effect of dipicolinic acid produced in "Natto". (S. UDO). 55
On the new measuring apparatus of hydrogen value of fats and oils. (T. MARUYAMA). 56
Studies on the castor-bean lipase. IX.—On the enzymic oil-synthesis and its activating substance. (E. TAKAMIYA). 57
Some properties of benzyl-cellulose. (S. KAWASE and Y. KIHARA). 58
Biochemical studies of the locust. (1). (C. ICHIKAWA). 58
Biochemical studies of the locust. (2) (C. ICHIKAWA). 58
Comparison of nutritive value of fodder proteins I. (H. IWATA). 58
On the free hexonbases and the free sugars of Iridaea laminarioides. (T. TADOKORO and C. TAKASUGI). 70
Untersuchungen von Essigbakterien aus Formosa. (IX). (S. TANAKA). 70
On the unsaponifiable matter of Chrysalis oil. (J. OZAKI and B. KASAI). 70
Studies on the nodule bacteria. IX.—On the electrical properties of the accessory substance. (A. ITANO and A. MATSUURA). 71
Studies on the amylase of yeast. (IX).—On the enzymic chemical properties. (6). Properties of the yeast-amylase on glycogen. (K. OHNO). 72
Studies on the principal constituents of tobacco (I).—On the difference of nicotine contents of the tobacco leaves of the different part. (S. KANAHARA). 73
Über Grayanotoxine, die wirksamen Inhaltsstoffe von Leucothoe grayana, II. Mitteil. (S. MIYAJIMA und S. TAKEI). 73
Studies on "Kaoliang" as the source of starch-making, milling and "Ame"-manufacture (IV).—Part I. Preliminary experiments for washing, steeping and cooking of recoater Kaoliang. (R. YAMAMOTO, S. YOSHIMURA & R. TANAKA). 74
Chemical studies on Japanese Coccidae. XI. —On the resinous constituents of Ceroplastes rubens. 1. (M. KAWANO and R. MARUYAMA). 74
On the unsaponifiable matter of the algae fats. II.—Pelvesterol from Higikia fusiformis (Harv.) Okam. (K. SHIRAHAMA). 94
Chemical studies on Japanese Coccidae.—On the carbohydrate and wax-substance of

Prontapsis yanonensis Kuw. (M. KAWANO and R. MURAYAMA)..... 94
Studies on "Kaoliang" as the source of starch-making, milling, and "Ame"-manufacture. (IV).—Part 2. On liquefaction- and saccharification-velocity of starch by diastase. (M. NINOMIYA, S. KATAOKA and R. YAMAMOTO)..... 94
Studies on "Kaoliang" as the source of starch making, milling and "Ame"-manufacture. IV.—Part 3. On Maltose-dextrine ratio in the saccharificated products of starch by malt-diastase. (R. YAMAMOTO and S. MATSUMOTO)..... 95
Studies on "Kaoliang" as the source of starch-making, milling and "Ame"-manufacture. IV.—Part 4. Influences of heat-treatment under pressure on the compositions and succharification of Kaoliang. (R. YAMAMOTO, S. MATSUMOTO and S. SHIMMI)..... 95
On the chemical constituents of the bark of mulberry tree. (I).—α-Amyrin. (M. OKU)..... 95
Studies on the amylase of yeast. X.—On the enzyme chemical properties. (7). Effect of mercuric chloride, sodium-fluoride, boiled-yeast juice and others on the action of yeast-amylase. (K. OHNO)..... 95
Studies on the amylase of yeast. XII.—On the enzyme chemical properties, (8). Purification of yeast-amylase and properties of the purified enzyme. (K. OHNO)..... 95
Researches on the amines of fusel oil. (T. TAIRA)..... 96
A view to the classification of the Far Eastern Monascus and its nomenclature. (K. SATO)..... 96
The nutritive value of pentosan. III.—Decomposition of xylan by alimentary-canal-bacteria. (H. IWATA)..... 96
Studies on the changes of chemical components of the cucumber with the nature and composition of its sugar. (M. KITAHARA)..... 96
Studies on the nodule bacteria. X.—Influence of some stimulating chemicals with special reference to the alkaloids upon the growth and morphology of the nodule bacteria. (A. ITANO and A. MATSUURA)..... 96
Pulp from Manchurian cotton stem. Part I. (M. SHIKATA, S. FUKUWATARI and K. AKAGI)..... 97
Researches on the pulp woods and rayon pulp. Part IX.—Chemical constituents of woods of Chosen. (M. SHIKATA, A. UMEMURA, H. NISHIDA and N. URANO)..... 98
Researches on the pulp woods and rayon pulp. Part X.—Chemical researches on the manufacture of rayon pulp from hard woods. (M. SHIKATA, S. HONDA, H. NISHIDA and M. SAITO)..... 99
On the acetone-butanol fermentation. IX.—Isolation of organisms. (B. ROKUSHO)..... 100
Studies on the amylase of yeast. XII.—On the action of yeast amylase in macerations-juice and some enzyme solution which reported in a previous paper (8). (K. ONO)..... 101
Über Kahmhefe-verhütenden Bestandteil im unverseifbaren Anteil von Sojaöl, Tamariöl und Tamarikoji-öl. (K. MIYAJI und M. OGURI)..... 101
Chemische Untersuchung über die Bestandteile der Rosskastaniensamen.—I. Mitteil. Über den Nährwert. (Dr. R. SASAKI und M. KANDATSU)..... 102
On an active biological factor in the cow's milk, (R. SASAKI and N. ANDO)..... 102
Experimentelle Untersuchungen über den Einfluss von Radium-Bestrahlung auf die Gärungsmikroorganismen. (Vorläufige Mitt.) —Die Bildung konstanter Variation der Heferassen unter der Einwirkung von Hokutolit-Strahlen. (R. NAKAZAWA und M. SHIMO)..... 115
The influence of monochromatic lights on action of the fat-splitting enzyme in the yeast. (R. MURAKAMI)..... 115
Studies on soya-been oil-foots.—(1) Isolation of stachyose and an organic complex. [Oil-phophatides-fatty acids-ashes-(glucose)]. (K. OKANO, I. OHARA and J. KATO)..... 116
The chemical constituents of Actinidia callosa Lindle. var. rufa Makino. I. (Y. KIHARA)..... 117
Untersuchungen von Eissigsäurebakterien aus Formosa (X).—Systematische Untersuchungen über Essigsäurebakterien aus Formosa. (1). (S. TANAKA)..... 118
On the correlation of the organic and the mineral matters contained in mulberry leaves. (K. KATO)..... 118
Die Untersuchungen über die Microorganismen von Zukerrohrsäfte. (R. NAKAZAWA, Y. TAKEDA und K. SUEMATU)..... 119
Studies on the amylase of yeast. XIII.—Summary. (K. OHNO)..... 119
On the exchangeable cation content as related to climatic soil types in Manchuria. (R. KAWASHIMA)..... 119

Enzymatic studies on cereals. Part V.—On the saccharifying amylase of rice. (G. YAMAGISHI). *121*
Enzymatic studies on cereals. Part VI.—On the saccharifying amylase on the well-cleaned rice. (G. YAMAGISHI). *122*
Chemical studies on silk-fibron (II).—Generality of fibroin-components. (H. KANEKO and T. KOMATSU). *123*
Chemical studies of the amino acid. III.—The apparent dissociation constants of canavanine and canaline. (T. TOMIYAMA). *123*
Chemical studies of the amino acid. IV.—On the nature of the reaction which takes place between certain amino acids and formaldehyde. (T. TOMIYAMA). *123*
Chemical studies of amino acid. V.—The solubilities of *l*-proline and *l*-hydroxyproline in water, the calculated heats of solution, and the apprent moral volume of *l*-hydroxyproline. (T. TOMIYAMA). *124*
Nutritive value of canavanin (amino acids) (Influence of canavanin on pregnancy and parturition.) Report VI. (M. OGAWA). *124*
Oils in the vinegar-cakes. (T. TADOKORO and H. NAKAYAMA). *125*
On the inorganic colloids in soils (I). (S. OSUGI and S. MORITA). *125*
On the optical properties of the fermentation lactic acids. Part IV.—A new enzyme racemiase which reveals racemisation of lactic acids. (H. KATAGIRI and K. KITAHARA). *127*
Technische Anleitung Mannit aus Sucrose. (II).—Anwendung des Nebenproduktes als Klebemittel einer zerriebenen Kohle. (K. MIYAJI). *127*
Über die verschiedene Eigenschaften von Aspergillusarten. (II). (Y. TAKEDA und O. TAKEUCHI). *128*
Studies on canavanin. (VII).—The synthesis of canalin. (M. KITAGAWA). *129*
Studies on the assimilation of nitrites by fungi. (Part III.) (Y. WANG). *129*
On the varieties of Aspergillus oryzae employed in shoyu-manufacture. Part. I.—Morphological differences. (M. KIBI). *130*
Separation of cyanuric acid from the soil of "Kagamigahara" (C. ICHIKAWA). *131*
A chemical interpretation of the difference of colours on leaf and flower. (C. ICHIKAWA). *131*
Application of mycellium of Aspergillus oryzae exposed to the ultra-violett ray on poultry (I).—Effect on the growth of chiken. (R. TAKATA and K. YOKOYAMA). *132*
On the inorganic constituents of green-manure crops. II. (K. KONISHI and T. TSUGE). *132*
Über die Gärungsmikroorganismen in Awamori-Bereitung (I).—Aspergillus-Arten. (R. NAKAZAWA, M. SIMO und H. WATANABE). *132*
Kampferol from the tea leaf. (Y. OSHIMA and H. KA). *133*
Sterilizing action of acids. VII.—Sterilizing action of oxy fatty acids on putrifactive bacteria, Bac. typhosus and Vib. cholerae. (S. TETSUMOTO). *134*
Citricodehydrase aus Wassermelonensamen. (K. WATANABE). *136*
Über die Oberflächenaktivität und die Adsorbierbarkeit von Aminosäuren. VII. Mitteilung. (T. ITO). *136*
On acid soil of peculiar behavier (4).—On the existence of organic acids in the soil. (S. OSUGI and M. AOKI). *138*
On the cystine content of hair and feathers. (Y. OKUDA and K. KATAI). *139*
On the chemical investigation of the mulberry stems. (T. NAKASONE). *139*
On the production of acetoin and 2, 3-butyleneglycol by microbes. (II).—The isolation and identification of both compounds. (Y. TOMIYASU). *140*
Untersuchungen über die Verwitterung der Eruptivgesteine. III.—Über eine photochemische Methode zur Bestimmung des Limonits und Hämatits und, die chemische Zusammensetzung von Verwitterungsprodukten der Basalte. (M. Harada). *142*
Carbohydrates in the bulbs of Allium. VII.—Derivatives of scorodose. (Y. KIHARA). *146*
On the nutritire value of Punicum. (T. OHARA). *146*
Chemical studies on canned meats. II.—On the contents of gases and metals in stored cans. (Y. OKUDA and K. KATAI). *147*
Chemical studies on canned meats. III.—Carbon dioxide and hydrogen gases produced at canning and in storage. (Y. OKUDA and K. KATAI). *148*
On the iodine in the poultry body. (R. SASAKI). *149*
On the composition of some lobster-meats. (K. KONDO, M. KUBO and K. BANDO). *149*

The composition of the bonito-meat and some characters of the proteins of bonito-meat (Katsuwonus pelamis (L.)) (K. KONDO and T. MIHARA)..... 150
Studies on the composition of meat of the flat fishes (Pseudorhombus cinnamomeus (T. & S.)) (K. KONDO, K. FUJIOKA, S. SINANO and H. MITSUDA)..... 151
Biochemical studies on "SOTETSU" (Cycas revoluta Thunb.) Part VI.—On the poison-removal of the "Sotetsu"-seed and its nutritive value. (K. NISHIDA)..... 151
Biochemical studies of the pollen. (C. ICHIKAWA)..... 152
Utilization of irradiated mycelium of Aspergillus oryzae for poultry feeding (II).—Effect on the laying hen. (R. TAKATA, K. YOKOYAMA and G. KATSUI)..... 152
Chemical studies on silk fibroin, III.—Dyeing properties of fibroin components. (H. KANEKO and C. KOMATSU)..... 152
Studies on the existence of carboligase. (Y. TOMIYASU)..... 152
The change of oxidation-reduction potentials of water-logged soil. II. Lateritic soils and sandstone-shale soils. (K. SHIBUYA, H. SAEKI and K. RYU)..... 153
The cause of decrease of ether-extract in fish meal during storage. (K. ÔSHIMA and T. SUGAWARA)..... 155
Über die Gärungsorganismen in Awamori-Bereitung. II. Saccharomyces-Arten. (R. NAKAZAWA and M. SIMO)..... 156
On the Koji-amylase. Part I. The effect of brewing water on the extraction of koji-amylase. Part II. The fluctuation of amylase during the fermentation of saké-moromi. Part III. Effect of solvents upon the amount of amylase extracted from saké-koji of various peroids of cultivation. Part IV. Attempts to the preparation of saké-amylase free from maltase. (Y. TOKUOKA)..... 157
Studies on vitamin C. XVIII.—The effect of light upon the production of vitamin C. (T. MATSUOKA)..... 160
On the derivative of vitamin-D and several sterins. (M. SUMI)..... 161
On the optical properties of the fermentation lactic acids. Part V. The action of acetone-butyl alcohol producing organism upon optical active lactic acid. (H. KATAGIRI and K. KITAHARA)..... 161
Studies on the composition of the dried meat of the sea-ear and the glycogenase of the fresh sea-ear (Haliotis gigantea Gm.) (K. KONDO and S. SHINANO)..... 162
Biochemical investigation of mosaic disease of tobacco plants. I.—Influence of the concentrations of hydrogen ion and nutrients in culture solution. (Y. OKUDA and H. SATOH)..... 162
Biochemical investigation of mosaic disease of tobacco plants. II.—Distribution of substances in both healthy and diseased leaves. (Y. OKUDA, S. SHIGEMATSU and M. HANADA)..... 162